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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HUSON, MONICA ANNE

ART UNIT PAPER NUMBER

1732

DATE MAILED: 01/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/863,928

Applicant(s)

WANG ET AL.

Examiner

Monica A. Huson

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 8-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 33-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This office action is in response to the RCE filed 13 December 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 33-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altieri et al. (U.S. Patent 5,849,233), in view of Protzman et al. (U.S. Patent 3,137,592).

Regarding Claim 1, Altieri et al., hereafter "Altieri," show that it is known to carry out a method for preparing an extruded starch product (Abstract), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms, said starch being a granular starch having a conventional particle size distribution (Column 3, lines 1-28, 52-56); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said barrel having at least first and second zones, said first zone being at a cooler temperature than said second zone, said starch being extruded in the presence of total moisture in said barrel no greater than about 25% by weight of said starch, said process including the step of controlling the rotational speed of said shaft to impart a specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 1, lines 56-

Art Unit: 1732

58; Column 4, lines 37-67; Column 5, lines 1-17; Column 6, lines 39-42; It is specially noted that Altieri does show his extruder wherein a first stage of his extruder is held at 65C and a second stage is held at 176C.). Altieri does not exclusively indicate that gelatinization takes place in the second-stages of his extruder which are at 176C, nor does he exclusively discuss the solubility of the extruded product. Protzman shows that it is known to carry out a method for preparing a cold-water soluble extruded starch that has a solubility greater than 90% in water at 25C and that is film forming in aqueous solution (Column 12, line 70), and that is gelatinized to a gelatinizing level, said gelatinizing level being at least 95% (Column 6, lines 13-18; It is being interpreted that by “gelatinized starch”, Protzman is referring to a fully, i.e. 100%, gelatinized starch.), the process comprising extruding said starch in an extruder, said extruder having a barrel having zones, wherein the conditions that cause gelatinization include temperatures of 150C-175C (Column 11, lines 60-61; Column 12, lines 66-67). Protzman and Altieri are combinable because they are concerned with a similar technical field, namely, methods of extruding starch products. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Protzman’s process conditions that promote greater than 90% cold water solubility during Altieri’s molding process in order to form a product that accommodates exclusive end-use specifications.

Regarding Claim 2, Altieri shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379,

Art Unit: 1732

1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 22.5% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 3, Altieri shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 20% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 4, Altieri shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 17.5% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Art Unit: 1732

Regarding Claim 5, Altieri shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising the step of drying said extruded starch product to a moisture content below about 15% to form a dried product (Column 5, lines 42-43), meeting applicant's claim.

Regarding Claim 6, Altieri shows the process as claimed as discussed in the rejection of Claim 5 above, including a method wherein said starch product is dried to a moisture content between about 9% and about 12% (Column 5, lines 42-43), meeting applicant's claim.

Regarding Claim 7, Altieri shows the process as claimed as discussed in the rejection of Claim 6 above, but he does not show grinding. Protzman shows that it is known to carry out a method further comprising the step of grinding said dried product (Column 12, lines 68-70). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to include Protzman's grinding step in Altieri's general molding process in order to prepare the molded product for subsequent uses which require ground items.

Regarding Claim 37, Altieri shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not discuss the solubility of the extruded product. Protzman shows that it is known to carry out a method including preparing a cold-water soluble extruded starch that has a solubility greater than 99% in water at 25C (Column 12, line 70). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Protzman's process conditions that promote greater than 99% cold water solubility during Altieri's molding process in order to form a product that accommodates exclusive end-use specifications.

Regarding Claim 33, Altieri shows that it is known to carry out a method for preparing an extruded starch product (Abstract), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms, said starch being a granular starch having a conventional particle size distribution (Column 3, lines 1-28, 52-56); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said barrel having at least first and second zones, said first zone being at a cooler temperature than said second zone, said starch being extruded in the presence of total moisture in said barrel no greater than about 25% by weight of said starch, said process including the step of controlling the rotational speed of said shaft to impart a specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 1, lines 56-58; Column 4, lines 37-67; Column 5, lines 1-17; Column 6, lines 39-42; It is specially noted that Altieri does show his extruder wherein a first stage of his extruder is held at 65C and a second stage is held at 176C.). Altieri does not exclusively indicate that gelatinization takes place in the second-stages of his extruder which are at 176C or discuss the solubility of the extruded product. Altieri also does not show preparing a coated food product. Protzman shows that it is known to carry out a method for preparing a cold-water soluble extruded starch that has a solubility greater than 90% in water at 25C and that is film forming in aqueous solution (Column 12, line 70), and that is gelatinized to a gelatinizing level, said gelatinizing level being at least 95% (Column 6, lines 13-18; It is being interpreted that by "gelatinized starch", Protzman is referring to a fully, i.e. 100%, gelatinized starch.), the process comprising providing a food substrate (Column 7, lines 6-8); providing a seasoning adherence solution (Column 2, lines 9-11); applying said seasoning adherence solution

Art Unit: 1732

to said food product in a manner effective to cause seasoning in said solution to adhere to said food substrate, said seasoning adherence solution having been prepared by mixing water, an extruded starch product, and a seasoning to form a solution (Column 7, lines 6-8; Column 8, lines 9-11), said product having been formed by a process including extruding said starch in an extruder, said extruder having a barrel having zones, wherein the conditions that cause gelatinization include temperatures of 150C-175C (Column 11, lines 60-61; Column 12, lines 66-67). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Protzman's process conditions for forming a food product that includes a starch product with greater than 90% cold water solubility during Altieri's molding process in order to form a food product that includes an appropriately-extruded starch product.

Regarding Claim 34, Altieri shows the process as claimed as discussed in the rejection of Claim 33 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003)). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 22.5% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 35, Altieri shows the process as claimed as discussed in the rejection of Claim 33 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses

Art Unit: 1732

a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 20% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 36, Altieri shows the process as claimed as discussed in the rejection of Claim 33 above, including a method wherein the moisture in the barrel does not exceed 25% by weight of said starch (Column 1, lines 56-58). It is noted that a prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness (MPEP 2144.05; *In re Peterson*, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir.2003). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to operate Altieri's molding method under a somewhat narrower moisture range of less than 17.5% by weight of the starch in order to most accurately form a product that accommodates exclusive end-use specifications.

Regarding Claim 38, Altieri shows the process as claimed as discussed in the rejection of Claim 33 above, but he does not discuss the solubility of the extruded product. Protzman shows that it is known to carry out a method including preparing a cold-water soluble extruded starch that has a solubility greater than 99% in water at 25C (Column 12, line 70). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Protzman's process conditions that promote greater than 99% cold water solubility during

Art Unit: 1732

Altieri's molding process in order to form a product that accommodates exclusive end-use specifications.

Regarding Claim 39, Altieri shows that it is known to carry out a method for preparing an extruded starch product (Abstract), the process comprising providing a hydroxyalkyl starch, said starch being derivatized with a hydroxyalkyl substituent having from 2 to 6 carbon atoms, said starch being a granular starch having a conventional particle size distribution (Column 3, lines 1-28, 52-56); and extruding said starch in an extruder, said extruder having a barrel, a die, and at least one rotating shaft, said process including the step of controlling the rotational speed of said shaft to impart a specific mechanical energy to said starch sufficient to result in a soluble extruded starch product that is capable of extrusion through said die at said rotational speed (Column 1, lines 56-58; Column 4, lines 37-67; Column 5, lines 1-17; Column 6, lines 39-42). Altieri does not discuss the solubility of the extruded product. Protzman shows that it is known to carry out a method for preparing a cold-water soluble extruded starch that has a solubility greater than 90% in water at 25C and that is film forming in aqueous solution (Column 12, line 70), and that is gelatinized to a gelatinizing level, said gelatinizing level being at least 95% (Column 6, lines 13-18; It is being interpreted that by "gelatinized starch", Protzman is referring to a fully, i.e. 100%, gelatinized starch.). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Protzman's process conditions that promote greater than 90% cold water solubility during Altieri's molding process in order to form a product that accommodates exclusive end-use specifications.

Art Unit: 1732

Regarding Claim 40, Altieri shows the process as claimed as discussed in the rejection of Claim 39 above, including said barrel having at least first and second zones, said first zone being at a cooler temperature than said second zone, said starch being extruded in the presence of total moisture in said barrel no greater than about 25% by weight of said starch (Column 1, lines 56-58; Column 4, lines 37-67; Column 5, lines 1-17; Column 6, lines 39-42; It is specially noted that Altieri does show his extruder wherein a first stage of his extruder is held at 65C and a second stage is held at 176C.). Altieri does not exclusively indicate that gelatinization takes place in the second-stages of his extruder which are at 176C. Protzman shows that it is known to carry out a process comprising extruding said starch in an extruder, said extruder having a barrel having zones, wherein the conditions that cause gelatinization include temperatures of 150C-175C (Column 11, lines 60-61; Column 12, lines 66-67). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to recognize Protzman's teaching of gelatinizing temperatures during Altieri's molding process in order to efficiently form a product that accommodates exclusive end-use specifications.

Response to Arguments

Applicant's arguments with respect to claims 1-7 and 33-40 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 1732

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Monica A Huson
January 4, 2006



MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER